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February 15, 2008

FILED ELECTRONICALLY

Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th St., S.W.
Washington, DC 20554

Re: WT Docket No. 02-55, ET Docket No. 00-258, and ET Docket No. 95-18

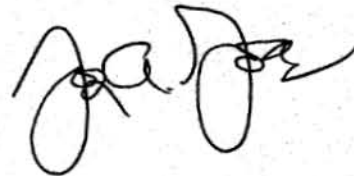
Dear Ms. Dortch:

On February 14, 2008, Doug Brandon, Vice President, Regulatory Affairs, TerreStar Networks Inc. ("TerreStar"), the undersigned and Tom Tycz, representing TerreStar, and Charles Cooper of du Treil, Lundin & Rackley ("dLR"), also representing TerreStar, met with Julius Knapp, Ira Keltz, Geraldine Matisse, Jamison Prime, Patrick Forster, Ahmed Lahjouji, and Nicholas Oros, all of the Office of Engineering and

Technology. During the meeting, the TerreStar representatives discussed the attached PowerPoint presentation. They also mentioned that the methodology used in the dLR technical report TerreStar submitted as an *ex parte* filing on January 30, 2008, which evaluates the prospects for broadcast auxiliary service stations and mobile satellite service stations to share 2 GHz spectrum, is similar to the methodology employed in a technical report submitted by the Society of Broadcast Engineers at an earlier stage of this proceeding.¹

Please direct any questions concerning this filing to the undersigned.

Sincerely,

A handwritten signature in black ink, appearing to read 'Joe Godles', with a stylized flourish at the end.

Joseph A. Godles
Counsel to TerreStar Networks Inc.

cc: Julius Knapp
Ira Keltz
Geraldine Matisse
Jamison Prime
Patrick Forster
Ahmed Lahjouji
Nicholas Oros

¹ See Petition for Reconsideration of the Society of Broadcast Engineers, ET Docket No. 95-18 (Jan. 7, 2004).

TEMPORARY SPECTRUM SHARING IN THE 2 GHZ BROADCAST AUXILIARY BAND

**FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF ENGINEERING & TECHNOLOGY**

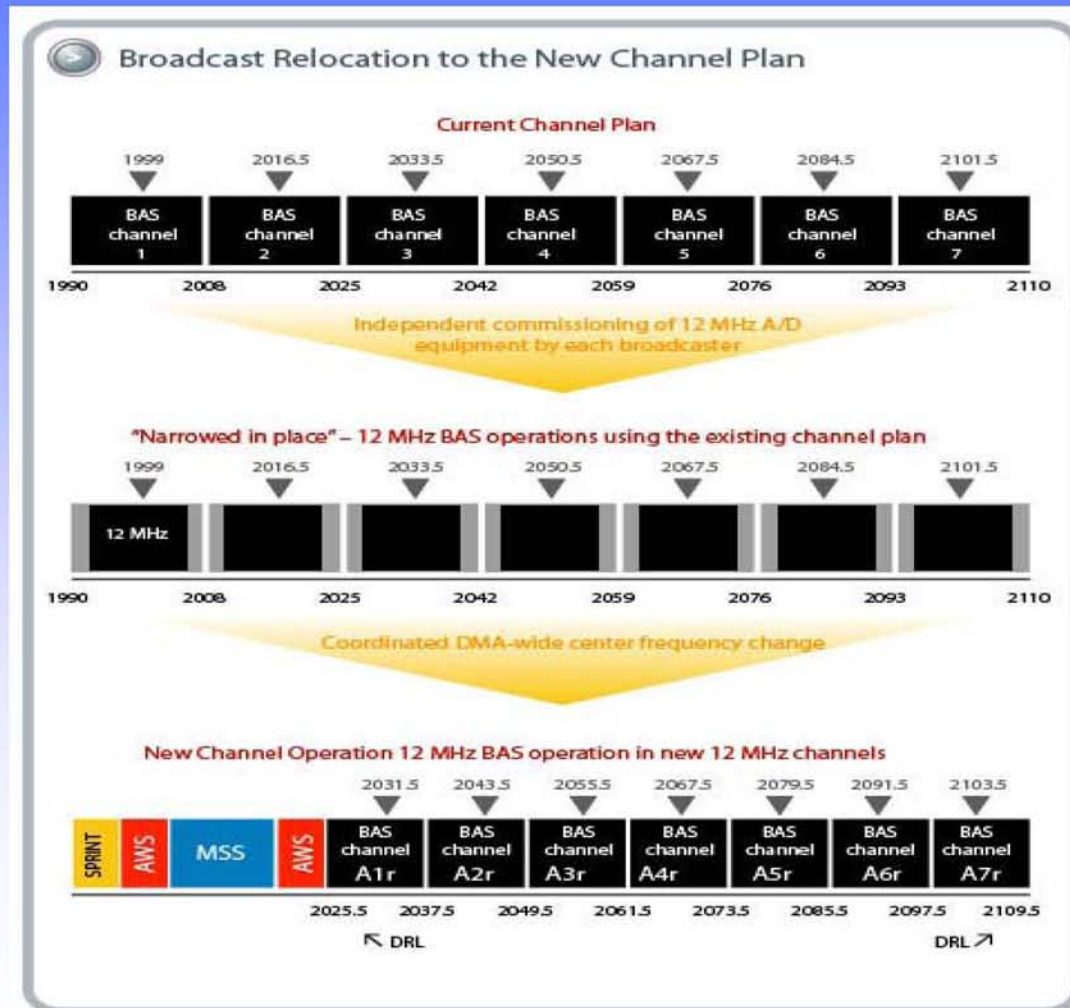
**February 14, 2008
Washington, DC**

2 GHZ BAS BAND

The Spectrum Problem

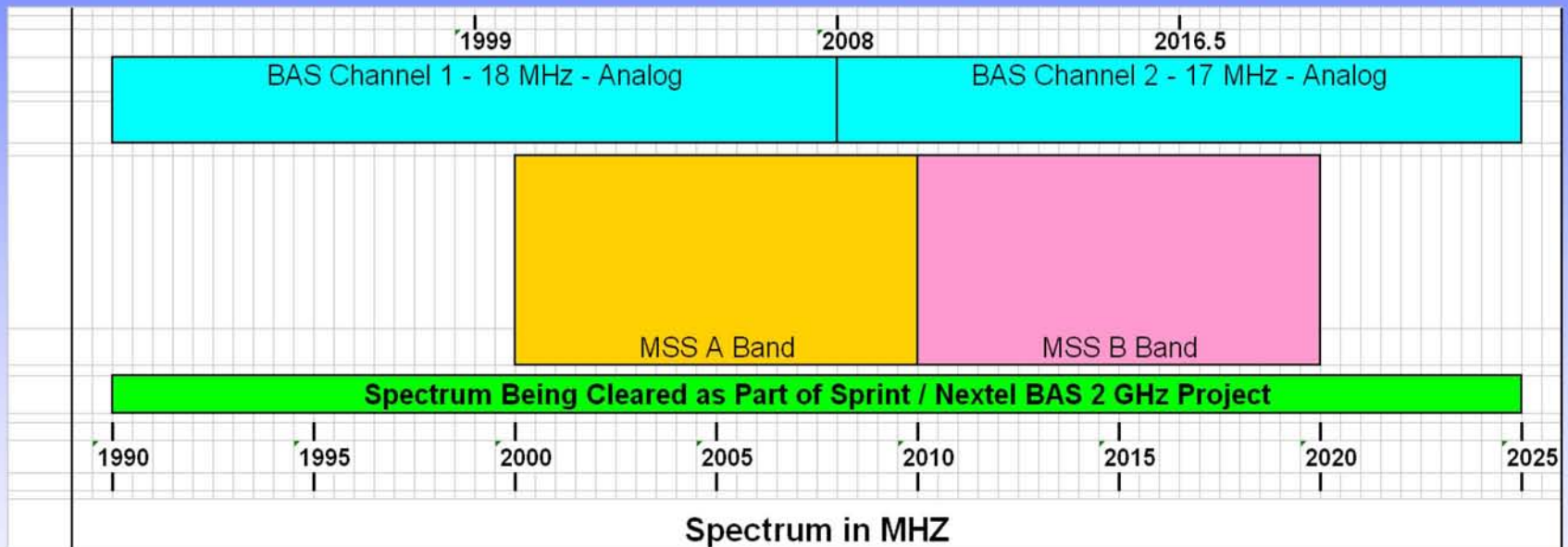
Spectrum clearing in the 2 GHz band for the Mobile Satellite Service is behind schedule. TerreStar proposes temporary spectrum sharing with existing BAS users.

2 GHZ BAS RELOCATION PLAN



Graphic from
Sprint / Nextel

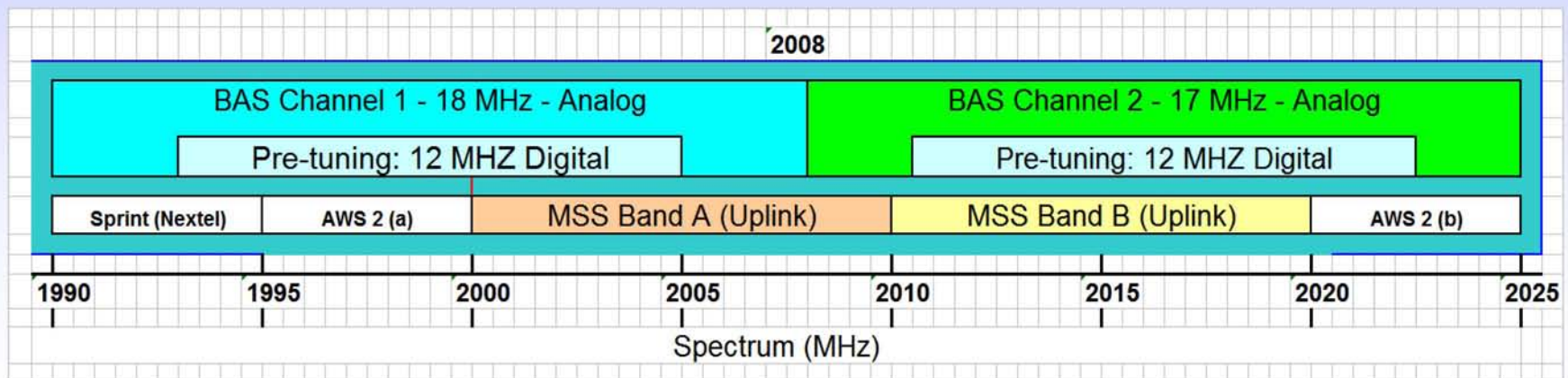
EXISTING BAS CHANNELS 1 & 2 AND MSS BANDS



TerreStar proposes narrowband handset transmissions (uplink to satellite) in this band.

TRANSITION BAS CHANNELS 1 & 2 AND MSS BANDS

Potential for interference-free MSS
Narrowband Operations



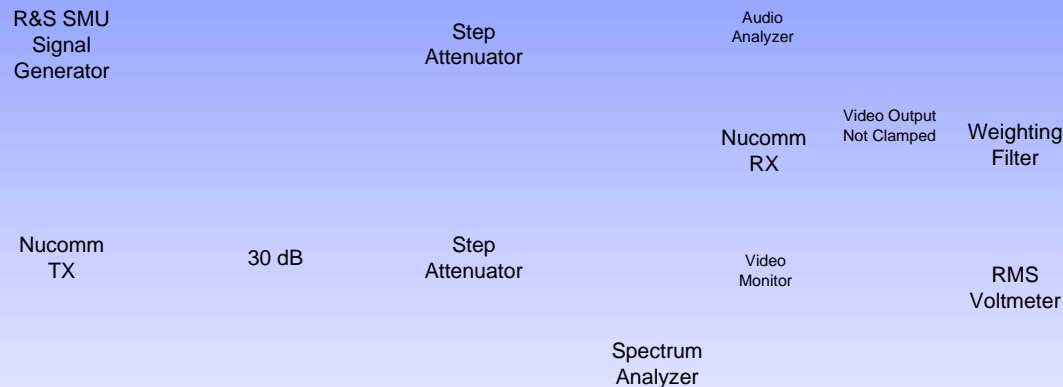
TERRESTAR OPERATIONS

- **Handset to satellite transmissions.**
- **Narrowband – 31.25 kHz bandwidth**
- **Handset EIRP – 1 Watt max / 0.25 Watt average**
- **Modulation: GMR3 (TDMA signal)**
- **For testing purposes used simulated signal based on North American Digital Cellular (TDMA) standard.**

BAS OPERATIONS

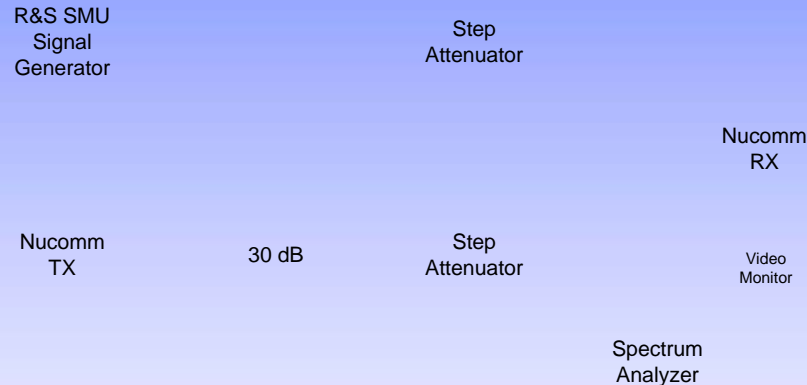
- **Fixed link – Wide IF filter (20 MHz). Not tested.**
- **Electronic News Gathering (ENG)**
 - **Analog normal IF filter (15 MHz); two audio subcarriers.**
 - **Analog narrow IF filter (10 MHz); one audio subcarrier.**
 - **Digital IF filter (8 MHz).**
 - **All three ENG modes were tested.**
 - **EIRP (typical): 400 Watts (analog) / 150 Watts (digital).**

BENCH TEST SET UP – ANALOG BAS



Tested to determine maximum interfering signal to cause no more than 1 dB degradation in BAS baseband video signal to noise ratio.

BENCH TEST SET UP – DIGITAL BAS



Tested to determine maximum interfering signal for which the receiver bit error rate does not exceed 10^{-6} .

FIELD TESTS

- **In cooperation with KSL(TV), Salt Lake City.**
- **Simulated TerreStar mobile emitter operating on 2008 MHz at 1 Watt EIRP.**
- **ENG operations on Channel 1. Tested both analog and digital ENG signals.**
- **Looked for degradation of demodulated BAS video and audio with ENG operation at threshold and interfering signal from TerreStar mobile emitter maximized.**

EXAMPLE ANALOG ENG LINK BUDGET (2 GHz)

- **Transmitter power: +37 dBm (5 Watts)**
- **Transmitter line loss: 1 dB**
- **Transmitter antenna gain: +20 dBi (EIRP=400 Watts)**
- **Free-space path loss over 25 miles: 131 dB**
- **Receiver antenna gain: +20 dBi**
- **Receiver line loss: 2 dB**
- **Power at receiver input: -57 dBm**
- **Fade margin: 32 dB**

EXAMPLE INTERFERENCE CALCULATION

ENG Operation on Channel 1, Narrow IF Mode
TerreStar Handset Operation on 2007.75 MHz

- **Desired power at receiver input: -57 dBm**
- **TerreStar operating frequency: 2007.75 MHz**
- **Minimum D/U ratio for interference: -33.5 dB**
- **Maximum permissible undesired power: -23.5 dBm**
- **Conclusion: TerreStar handset will not cause interference**

CONCLUSIONS

ENG RECEIVER MODE

CONCLUSIONS

DIGITAL
8 MHZ IF FILTER
“NARROW, IN
PLACE”

ENG OPERATIONS ON CHANNELS 1 AND 2 WILL BE IMMUNE TO INTERFERENCE FROM A TERRESTAR HANDSET OPERATING ON ANY OF THE TESTED FREQUENCIES.

ANALOG
10 MHZ NARROW
IF FILTER
SINGLE AUDIO
SUBCARRIER

A TERRESTAR HANDSET SIGNAL BETWEEN 2007-2008 MHZ WILL NOT CAUSE INTERFERENCE TO ENG OPERATIONS ON CHANNELS 1 AND 2. A TERRESTAR HANDSET SIGNAL BETWEEN 2010-2011 MHZ MAY CAUSE LIMITED INTERFERENCE TO ENG OPERATIONS ON CHANNEL 2, DEPENDING ON LOCATION AND FREQUENCY OF HANDSET.

ANALOG
15 MHZ NORMAL
IF FILTER
TWO AUDIO
SUBCARRIERS

SOME INTERFERENCE TO BAS CHANNEL 1 AND 2 OPERATIONS MAY OCCUR NO MATTER ON WHICH FREQUENCIES A TERRESTAR HANDSET TRANSMITS, PARTICULARLY WITH THE TERRESTAR HANDSET IN THE MAIN BEAM OF THE ENG RECEIVE ANTENNA AND THE ENG SIGNAL AT OR NEAR MARGIN.